

What is claimed is:

1. An abrasive array of a plurality of protruding units, each unit having a body composed of at least abrasive grains and a binder, each body having a base and a substantially linear region most distal from the base, the abrasive array comprising:

5 an at least two-by-two array of protruding units,

wherein each protruding unit has a base that has a first side and an oppositely disposed second side,

wherein, for each unit, its respective distal linear region, when projected on to a plane that is coplanar with its respective base, extends between a non-central point  
10 on the first side of the base and a non-central point on the second side of the base.

2. The abrasive array of claim 1, wherein each base is a rectangle having length and a width.

15 3. The abrasive array of claim 2, wherein the length of the rectangle is between 1 and 150 mils and the width of the rectangle is between 1 and 150 mils.

4. The abrasive array of claim 2, wherein the distance between each base and its respective distal linear region is at most 60 mils.

20 5. The abrasive array of claim 2, wherein the distal linear regions are substantially parallel with at least one side of their corresponding rectangular bases.

25 6. The abrasive array of claim 2, wherein the distal linear regions are not parallel with at least one side of their corresponding rectangular bases.

7. The abrasive array of claim 1, wherein each base has substantially the same geometry.

8. The abrasive array of claim 1, wherein each base has a different geometry.

9. The abrasive array of claim 1, wherein each base is the same size.

5 10. The abrasive array of claim 1, wherein at least one base is a different size than another base.

11. The abrasive array of claim 1, wherein the distal linear regions are substantially parallel with one another.

10

12. The abrasive array of claim 1, wherein at least one distal linear region is not parallel with another distal linear region.

13. The abrasive array of claim 1, wherein each the distance between each base and its respective distal linear region is substantially constant.

15

14. The abrasive array of claim 1, wherein the distance between each base and its respective distal linear region varies.

20 15. The abrasive array of claim 1, wherein each of the bases are substantially coplanar.

25 16. The abrasive array of claim 1, wherein the body of each protruding unit is formed at least in part from the group consisting of aluminum oxide, silicon carbide, alumina zirconia, garnet, diamond, cubic boron nitride, oxide cerium, and mixtures thereof.

17. An abrasive article comprising:  
a backing having a front and back surface; and  
an abrasive coating bonded to the front surface of the backing,

wherein the abrasive coating includes an at least two-by-two array of protruding units,

wherein each protruding unit has a base that has a first side and an oppositely disposed second side,

5                wherein, for each unit, its respective distal linear region, when projected on to a plane that is coplanar with its respective base, extends between a non-central point on the first side of the base and a non-central point on the second side of the base.

10            18.     The abrasive article of claim 17, wherein each base is a rectangle having length and a width.

19.     The abrasive article of claim 18, wherein the length of the rectangle is between 1 and 150 mils and the width of the rectangle is between 1 and 150 mils.

15            20.     The abrasive article of claim 18, wherein the distance between each base and its respective distal linear region is at most 60 mils.

20            21.     The abrasive article of claim 18, wherein the distal linear regions are substantially parallel with at least one side of their corresponding rectangular bases.

22.     The abrasive article of claim 18, wherein the distal linear regions are not parallel with at least one side of their corresponding rectangular bases.

25            23.     The abrasive article of claim 17, wherein each base has substantially the same geometry.

24.     The abrasive article of claim 17, wherein each base has a different geometry.

25.     The abrasive article of claim 17, wherein each base is the same size.

26. The abrasive article of claim 17, wherein at least one base is a different size than another base.

5 27. The abrasive article of claim 17, wherein the distal linear regions are substantially parallel with one another.

28. The abrasive article of claim 17, wherein at least one distal linear region is not parallel with another distal linear region.

10

29. The abrasive article of claim 17, wherein each the distance between each base and its respective distal linear region is substantially constant.

15 30. The abrasive article of claim 17, wherein the distance between each base and its respective distal linear region varies.

31. The abrasive article of claim 17, wherein the body of each protruding unit is formed at least in part from the group consisting of aluminum oxide, silicon carbide, alumina zirconia, garnet, diamond, cubic boron nitride, oxide cerium, and mixtures thereof.

20